



HareDB HBase Client Web Version

USER MANUAL

HAREDB TEAM



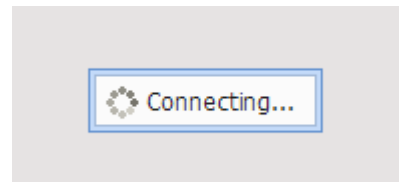
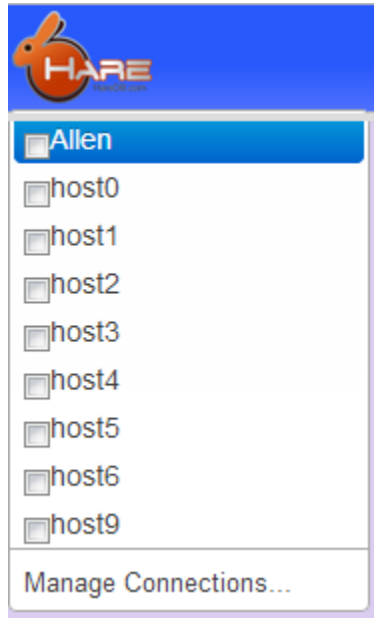
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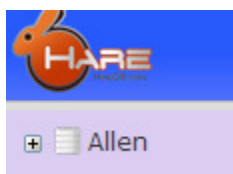
Connect to HBase



1. Click the icon
2. Select a connection you want to connect to.



3. The system will try to connect to HBase and show
4. After connection is succeed, the connection node will show up.



Connection

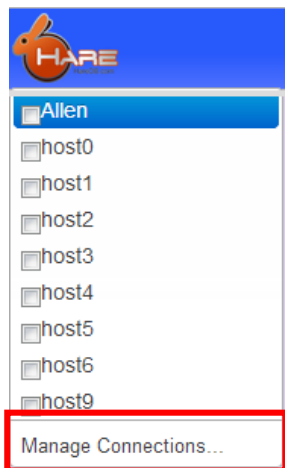
We define a “Connection” which has two parts of information.

One is for Hadoop and HBase Cluster.

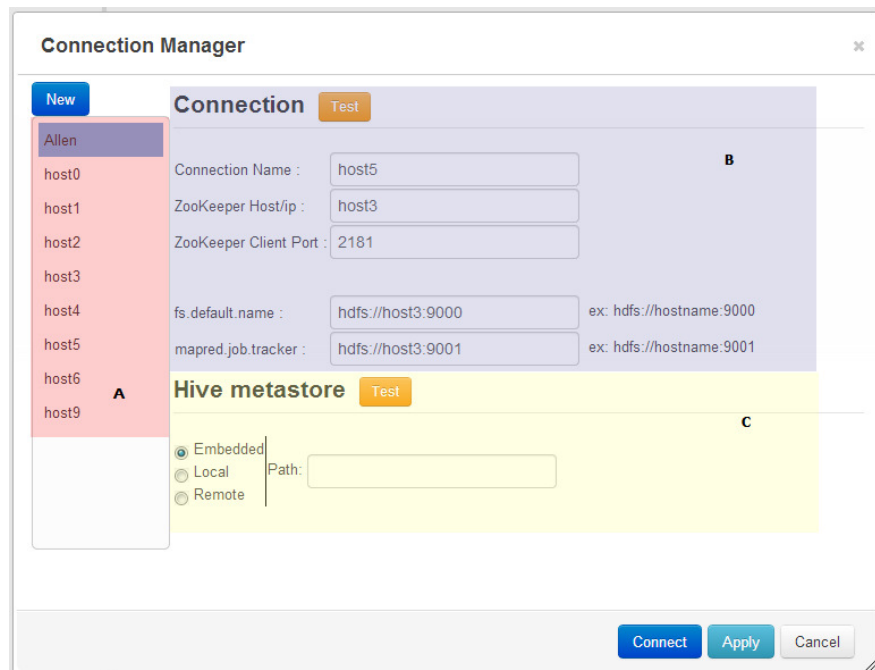
Another is for Hive metastore which is a place to store meta.

Connection Manager

1. Connection Manager is a component which can help us to add 、 modify and delete a connection.
2. There is an item “Manage Connections” in the bottom of the connection list.
3. Please select “Manage Connections”



4. After step 2, System will pop up a Connection Manager windows.



There are 3 areas in the “Connection Manager” window.

Area A:

It is a connection list which contents all connections you have.

Area B:

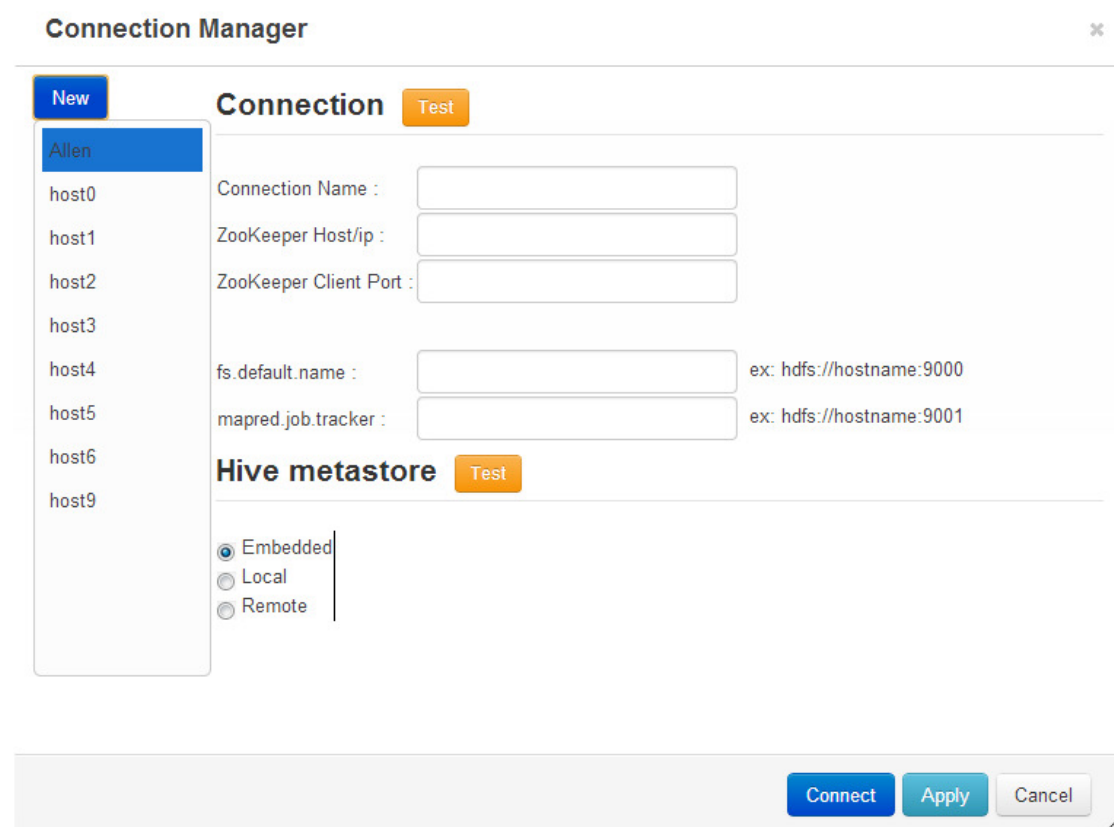
There are information of the connection you selected related with Hadoop and HBase Cluster

Area C:

There are information of the connection you selected related hive metastore.

Add a new Connection

1. to open a "Connection Manager"
2. Click the button 



The screenshot shows the "Connection Manager" dialog box. It has a title bar with a close button. Inside, there's a "New" button on the left and a "Test" button on the right. Below the "New" button is a list of hosts: "Allen", "host0", "host1", "host2", "host3", "host4", "host5", "host6", and "host9". The "Allen" host is selected. To the right of the host list, there are input fields for "Connection Name", "ZooKeeper Host/ip", and "ZooKeeper Client Port". Below these are two more input fields: "fs.default.name" with an example "ex: hdfs://hostname:9000" and "mapred.job.tracker" with an example "ex: hdfs://hostname:9001". There's a "Hive metastore" section with a "Test" button and three radio buttons: "Embedded" (selected), "Local", and "Remote". At the bottom right, there are three buttons: "Connect", "Apply", and "Cancel".

Here are the information you need.

Connection

Connection Name: Just a name which will show up at the connection list.

Zookeeper Host/ip: Input zookeeper's host name or ip. If you have

ZooKeeper Client Port: Input the port that your request can through

Hive metastore

These information is for metadata of the HTable. We rely on the metadata database of Apache Hive.

We support all kinds of hive metadata database.

First, it's "Embedded". If you don't have any hive metadata database or you don't install hive or even you don't know what is Hive. Please select "Embedded"

Second, it's "Local". If you have an rdb to be a Hive metadata database, please select "Local". And please input the rdb connection information.

Third, it's "Remote". Apache Hive provide a thrift service to interactive with metadata database. So, please provide the url of thrift server.

For example: `http://192.168.1.11:10000`

192.168.1.11 => your hive thrift server.

10000 => Thrift server port.

Connection Manager ✕

New

Connection **Test**

Allen

host0

host1

host2

host3

host4

host5

host6

host9

Connection Name :

Allen

ZooKeeper Host/ip :

host3

ZooKeeper Client Port :

2181

fs.default.name :

hdfs://host3:9000

ex: hdfs://hostname:9000

mapred.job.tracker :

hdfs://host3:9001

ex: hdfs://hostname:9001

Hive metastore **Test**

☐ Embedded

☒ Local

☐ Remote

Jdbc Url:

jdbc:mysql://host3:3306/metastor

Driver class:

com.mysql.jdbc.Driver

User name:

root

Password:

123456

Connect

Apply

Cancel

Connection Manager ✕

New **Connection** **Test**

Allen
host0
host1
host2
host3
host4
host5
host6
host9

Connection Name : Allen

ZooKeeper Host/ip : host3

ZooKeeper Client Port : 2181

fs.default.name : hdfs://host3:9000 ex: hdfs://hostname:9000

mapred.job.tracker : hdfs://host3:9001 ex: hdfs://hostname:9001

Hive metastore **Test**

☐ Embedded
☐ Local
☒ Remote

Metastore Uris:

Connect **Apply** **Cancel**

After filling the information, we have to click the button **Apply**

Hereafter, the new connection will appear to the connection list in the left side of “Connection Manager”.

Alter Connection

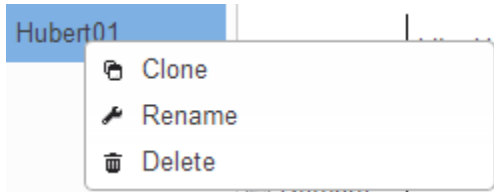
1. Open “Connection Manager” (Reference: [Connection Manager](#))
2. Select a connection you want to alter in the connection list.

Furthermore, the information of the connection you selected will show up at the right side of the Connection Manager.

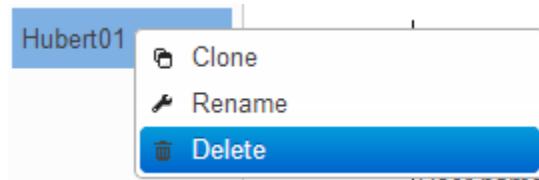
3. To modify any information you want to, then click the button **Apply**

Delete Connection

1. Open “Connection Manager” (Reference: [Connection Manager](#))
2. Right click on the connection you want to delete. Then it will pop up a menu.

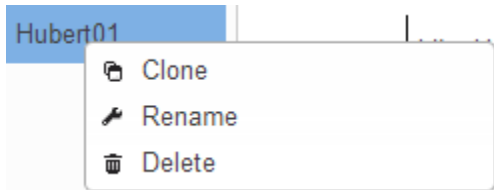


3. Please select “Delete” and it’s done.

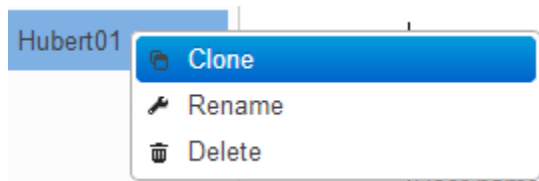


Clone Connection

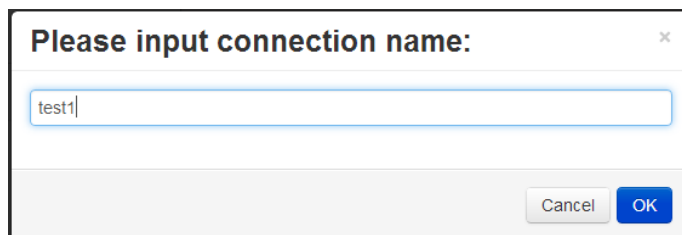
1. Open “Connection Manager” (Reference: [Connection Manager](#))
2. Right click on the connection you want to clone. Then it will pop up a menu.



3. Please select “Clone”. System will up an input window.

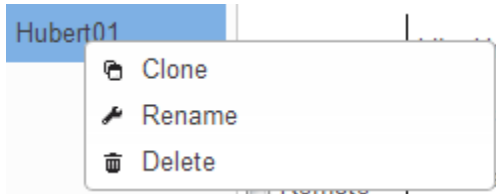


4. Please input a connection name

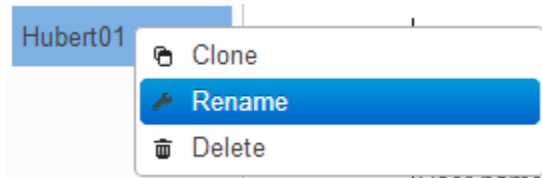


Rename Connection

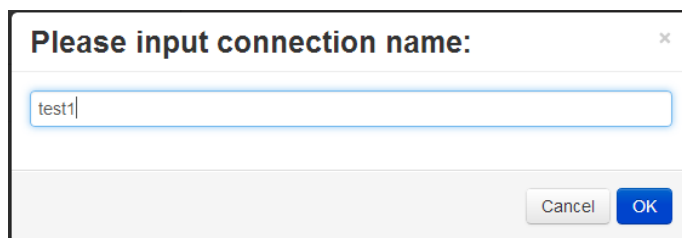
1. Open “Connection Manager” (Reference: [Connection Manager](#))
2. Right click on the connection you want to rename. Then it will pop up a menu.



3. Please select “Rename”. System will up an input window.



4. Please input a new connection name



Tables

We defines 3 kinds of table. Each kinds of table has different icon.



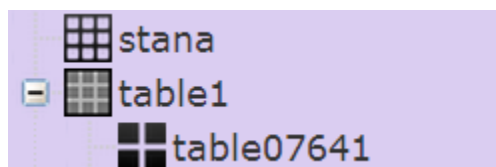
It's an HBase table with no table metadata.



It's an HBase table with table metadata

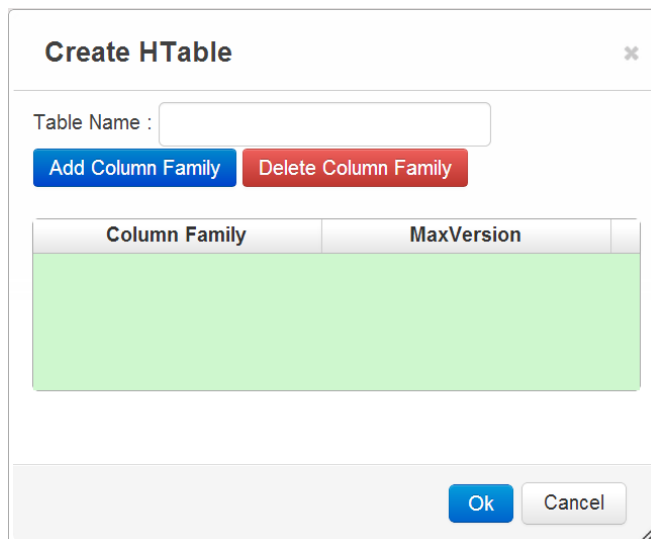
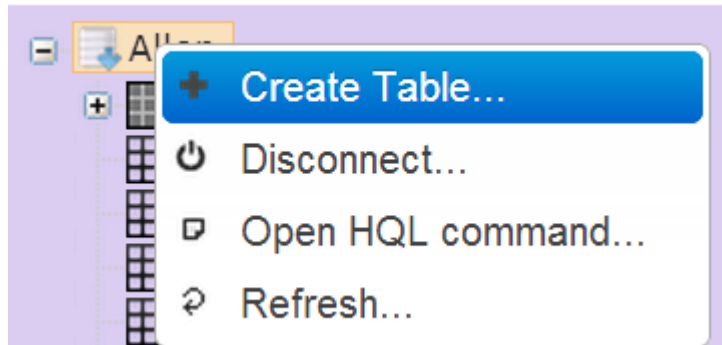


It's a Hive table with table metadata. This hive table is a child of HBase table.



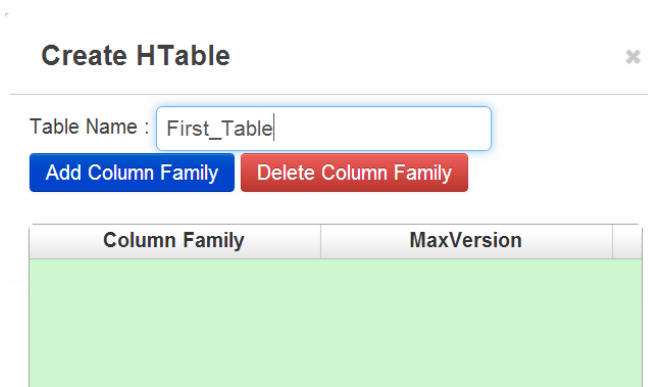
Create Table

1. Select a connection and connect to HBase. (Reference "[Connect to HBase](#)")
2. Right click on the connection icon and it will pop up a menu.
3. Please select "Create Table", and it will pop up a windows.



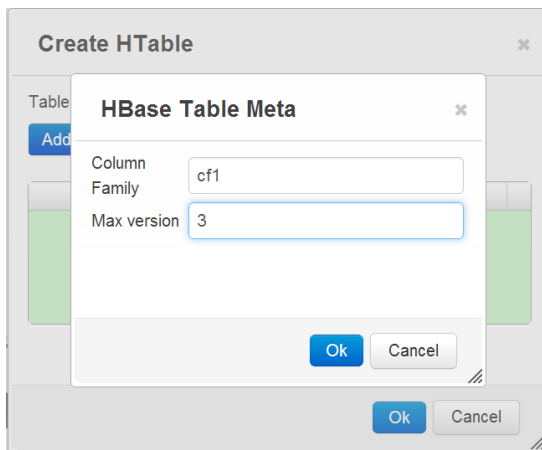
Column Family	MaxVersion

4. Input a table name.



Column Family	MaxVersion

5. At least input a column family. Of course you can delete column family



Create HTable

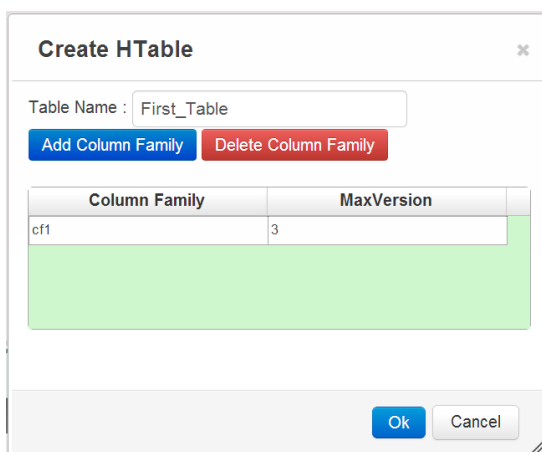
Table Name:

HBase Table Meta

Column Family:

Max version:

Ok Cancel



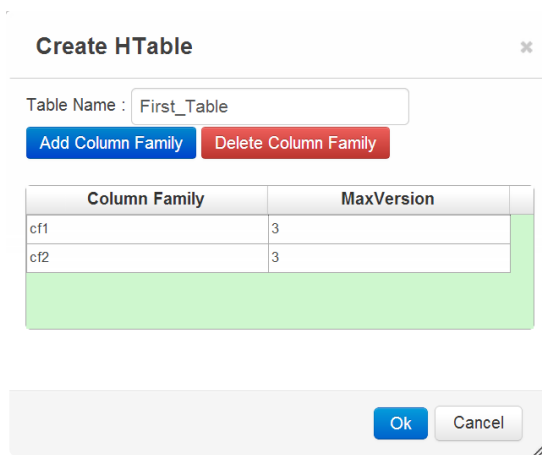
Create HTable

Table Name:

Add Column Family **Delete Column Family**

Column Family	MaxVersion
cf1	3

Ok Cancel



Create HTable

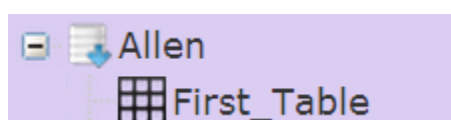
Table Name:

Add Column Family **Delete Column Family**

Column Family	MaxVersion
cf1	3
cf2	3

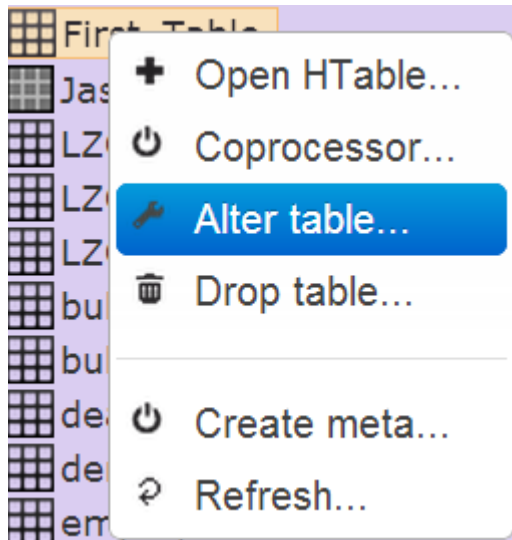
Ok Cancel

6. Press "OK"
7. You can check the table you just created in the table list



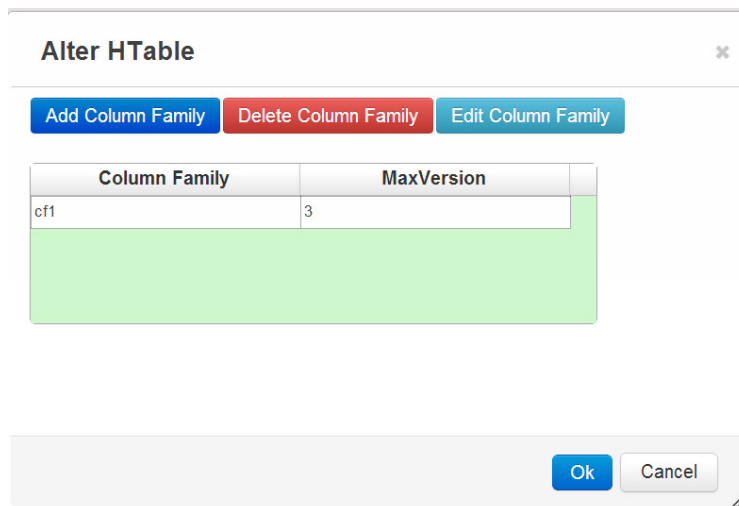
Alter Table

1. Select an connection to connect to HBase (Reference: "[Connect to HBase](#)")
2. Right click on the HTable you want to alter and system will pop up a menu.
3. Please select "Alter Table", and it will pop up a windows.



4. You can add column family or delete column family here.
 However, please be careful while you are deleting column family.
 Deleting column family will lose your data which is belong to the column family.

Add Column Family



HBase Table Meta

Column Family

Max version

Alter HTable

Column Family	MaxVersion
cf1	3
cf2	3

Drop Column Family

Alter HTable

Column Family	MaxVersion
cf1	3
cf2	3

Alter HTable

Add Column Family
Delete Column Family
Edit Column Family

Column Family	MaxVersion
cf1	3

Ok
Cancel

Edit Column Family's Properties

1. Please open the Alter Table Windows (Reference: "[Alter Table](#)")

Alter HTable

Add Column Family
Delete Column Family
Edit Column Family

Column Family	MaxVersion
cf1	3

Ok
Cancel

2. Select a Column Family

Alter HTable

Alter HTable

Add Column Family
Delete Column Family
Edit Column Family

Column Family	MaxVersion
cf1	3
cf2	3

3

Ok
Cancel

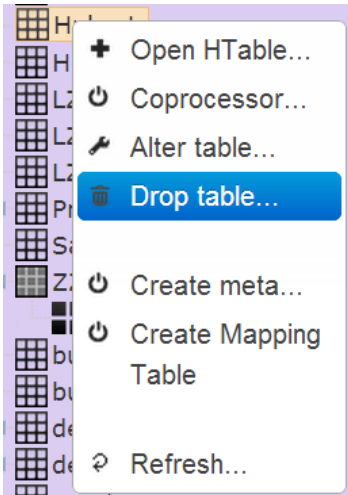
3. Click **Edit Column Family**, and system will pop up a window.
4. You can modify most properties.

Edit Column Family ✕

Property	Value
Column Family Name	<input type="text" value="cf2"/>
Data Block Encoding	<input type="text" value="NONE"/>
Bloom Filter	<input type="text" value="NONE"/>
Replication Scope	<input type="text" value="0"/>
Version	<input type="text" value="3"/>
Compression	<input type="text" value="NONE"/>
Min versions	<input type="text" value="0"/>
TTL	<input type="text" value="2147483647"/>
Keep Deleted Cells	<input type="text" value="false"/>
Block Size	<input type="text" value="65536"/>

Drop Table

1. Select a connection and connect to HBase. (Reference "[Connect to HBase](#)")
2. Right click on the connection icon and it will pop up a menu.



3. Please select "Drop Table", and it will pop up a message.

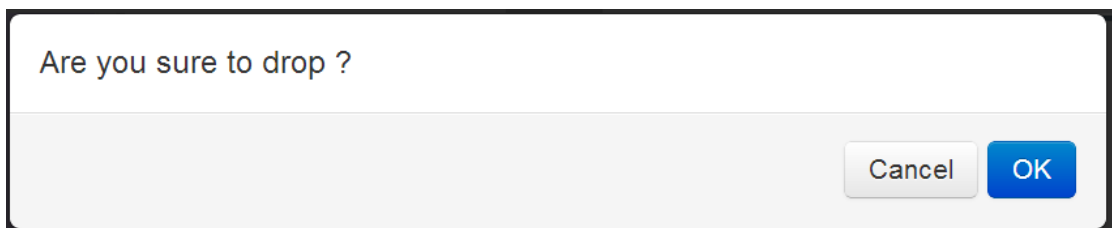
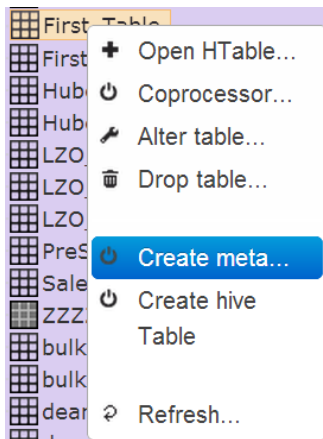


Table metadata

As we know, there is no schema in HBase. We only define table name and column families while we are creating HBase table. Furthermore, there is no data type in HBase. Everything is stored as a byte [] in HBase. However if we don't know the correct type, we can't cast the byte [] to the correct type and we can't read it correctly. So, we provide some metadata manage tool for you.

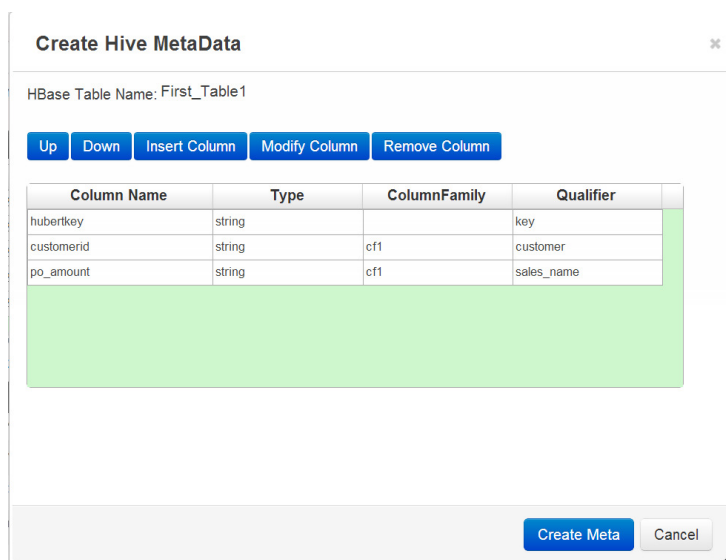
Create Meta

1. Select a connection and connect to HBase. (Reference "[Connect to HBase](#)")
2. Right click on the table which you want to create meta and it will pop up a menu.



3. Click "Create meta", and it will pop up a windows.

If the table has some hive tables already, system will give you a suggestion according to those hive tables.



Screenshot of Create Meta with suggestion

Create Hive MetaData

HBase Table Name:

Column Name	Type	ColumnFamily	Qualifier
rowkey	String		key

Screenshot of Create Meta without suggestion

4. Rowkey is a must row, don't delete it.
5. Insert Column

- Click
- System will pop up a window

Insert Column

Column Name:

Row Key: ☐

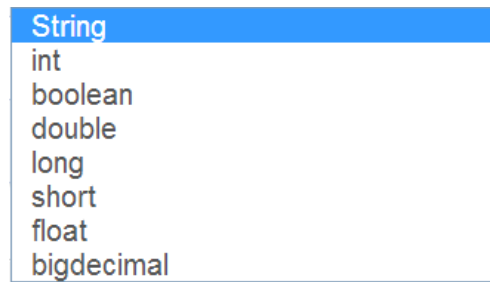
Data type:

Column Family:

Qualifier:

- Column Name: Any name you want
- Data Type: this type must the same with the type while you input it to HBase.

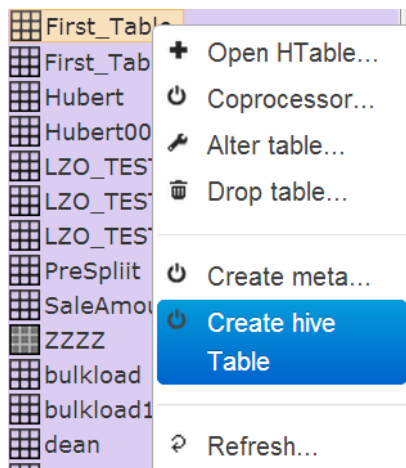
- We support these types as follow.



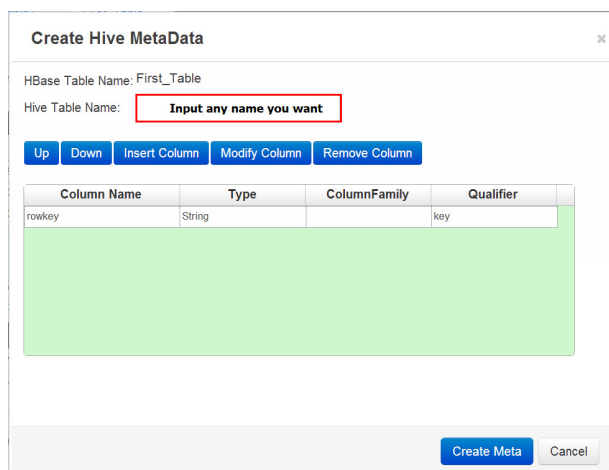
- Column Family and Qualifier must be the same with your HBase column which you want to map. Be careful it's case sensitive.

Create Hive Table

1. Select a connection and connect to HBase. (Reference "[Connect to HBase](#)")
2. Right click on the table which you want to create hive table for it and system will pop up a menu.
3. Click "Create hive table", and system will pop up a windows.



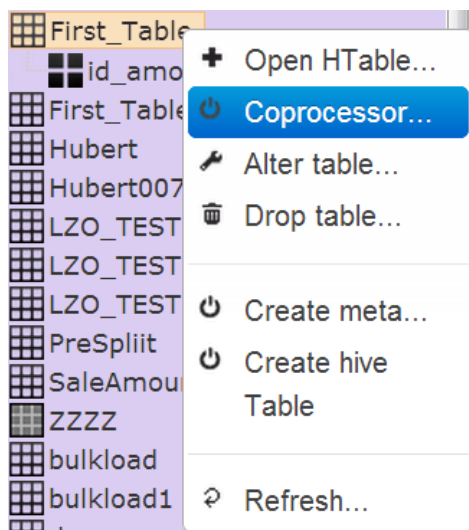
4. Input a table name
5. And you can insert, modify column and delete column (Reference "[Create Meta](#)")



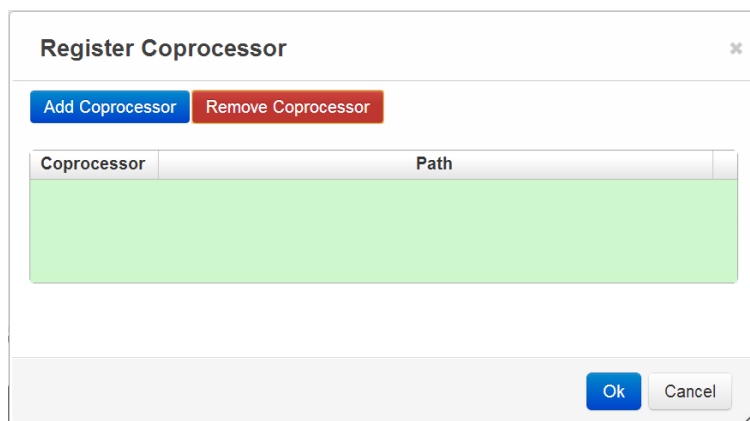
Query Data

Register a coprocessor

1. According to the HBase, we must register coprocessor for the table first before using it.
2. Select a connection and connect to HBase. (Reference "[Connect to HBase](#)")
3. Right click on the table which you want to register for it and system will pop up a menu.



4. Click "Coprocessor" and system will pop up a window.



5. Click "Add Coprocessor" and system will pop up another window.
6. Please select "BaseHiveQLEndpoint" and fill the Path "/xxx.jar"

Example: /hareql.jar



Add Coprocessor

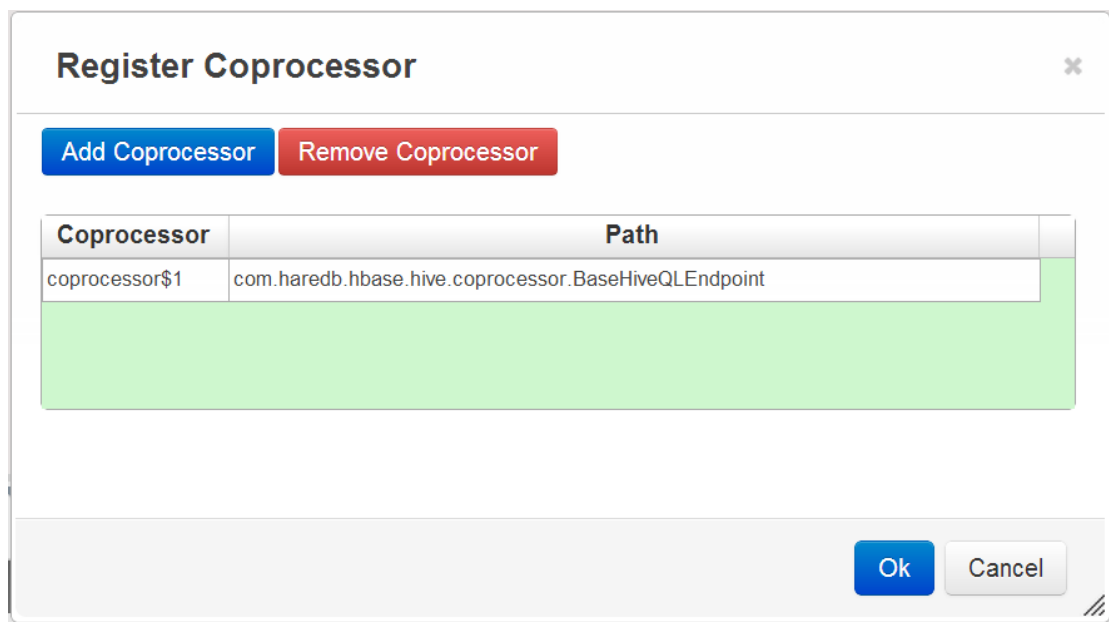
Coprocessor :
 com.haredb.hbase.hive.coprocessor.BaseHiveQLEndpoint

Coprocessor Path :
 hdfs://host3:9000/hareql.jar

Currently, we must name the jar of coprocessor, usually we input /hareql.jar

Ok Cancel

7. Press OK, here is the success screenshot as follow.



Register Coprocessor

Add Coprocessor Remove Coprocessor

Coprocessor	Path
coprocessor\$1	com.haredb.hbase.hive.coprocessor.BaseHiveQLEndpoint

Ok Cancel

Open HQL Command

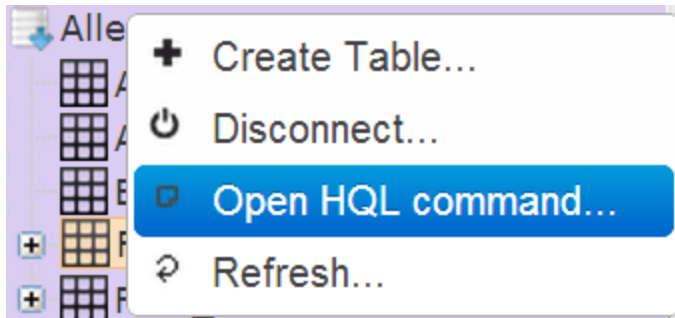
1. Register a coprocessor

Our HQL (HareQL Command) is implemented by HBase coprocessor.

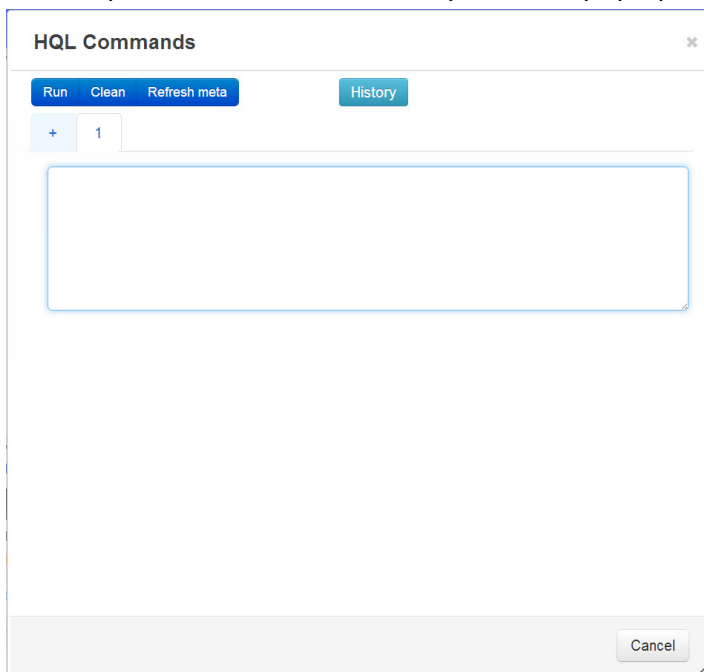
According to the HBase, we must register coprocessor first before using it.

(Reference "[Register Coprocessor](#)")

2. Select a connection and connect to HBase. (Reference "[Connect to HBase](#)")
3. Right click on the connection icon and system will pop up a menu.



4. Click "Open HQL command" and system will pop up a window like fellow.



5. You can use sql here to query data, but just "Select" no "Insert 、 Update 、 Delete" and "DDL".

HQL Commands

Run Clean Refresh meta
History

+ 1

select * from First_Table

This Table "First_Table" must register coprocessor

we can input SQL here, but currently not support "join"

we can add tab, each tab can run one sql

RowKey	cf1:customer_name	cf1:t_amount
C001	Sony	10000
C002	htc	123456
C003	appale	300000

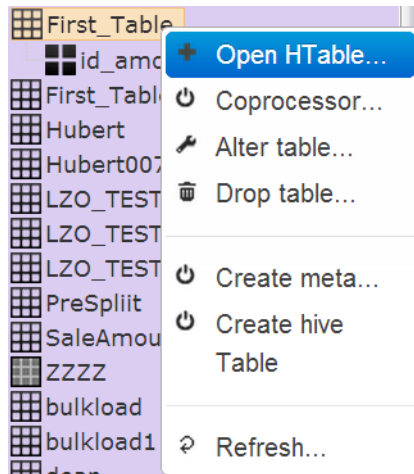
1 Next


Cancel

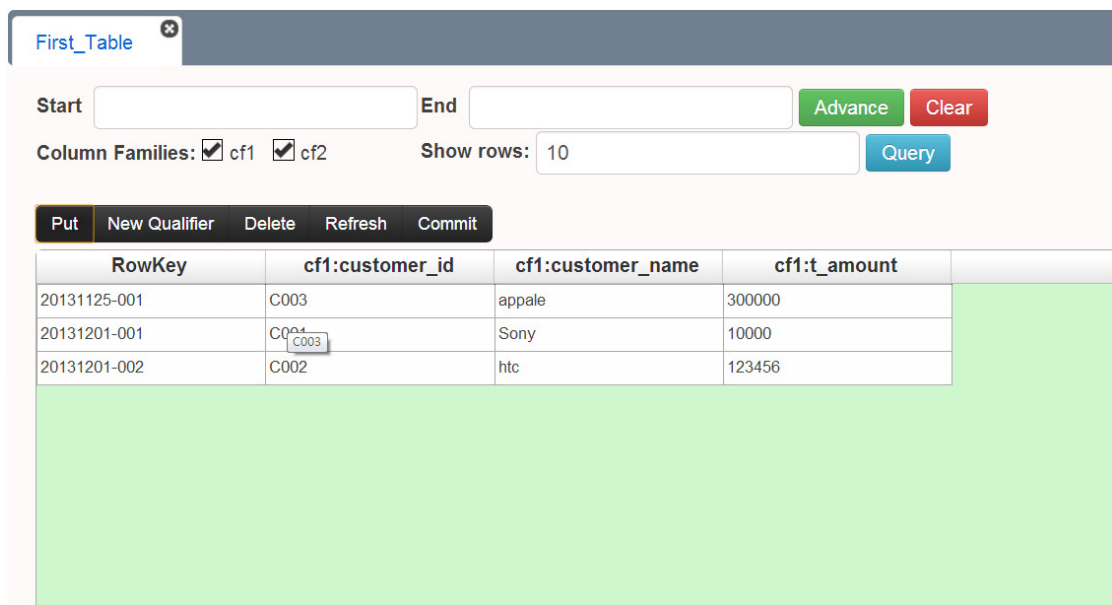
6. After you input the sql, press the RUN.

Open HTable

1. Select a connection and connect to HBase. (Reference "[Connect to HBase](#)")
2. Double click the table or right click on the table and system will pop up a menu.
 Select "OpenHTable".



3. You can click . Than data will show up as follow.



First_Table


Start End Advance Clear

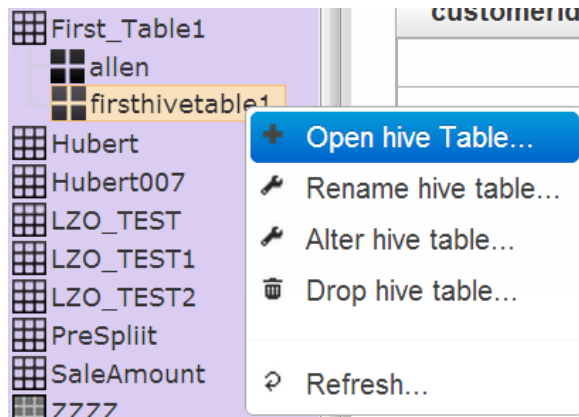
Column Families: ☒ cf1 ☒ cf2 Show rows: Query

Put New Qualifier Delete Refresh Commit

RowKey	cf1:customer_id	cf1:customer_name	cf1:t_amount
20131125-001	C003	appale	300000
20131201-001	C004	Sony	10000
20131201-002	C002	htc	123456

Open Hive Table

1. Select a connection and connect to HBase. (Reference "[Connect to HBase](#)")
2. Double click the Hive table  or right click on the table and system will pop up a menu and select "Open hive Table".



3. System will show the hive table with data in the right side as fellow.

Filter

rowkey	id	name	phone	company	aaa
rk1	9	stana	03-5630345#14	IS-Land	rk1aaa
rk2	9	stana	03-5630345#14	IS-Land	rk2aaa
rk3	10	dif	03-5630345#14	IS-Land	rk3aaa
rk4	10	dif	03-5630345#14	IS-Land	rk4aaa

4. You can input some criteria in filter area than click "Execute". You will get the result.

Filter

RowKey	id	name	phone	company	aaa
rk1	9	stana	03-5630345#14	IS-Land	rk1aaa

1